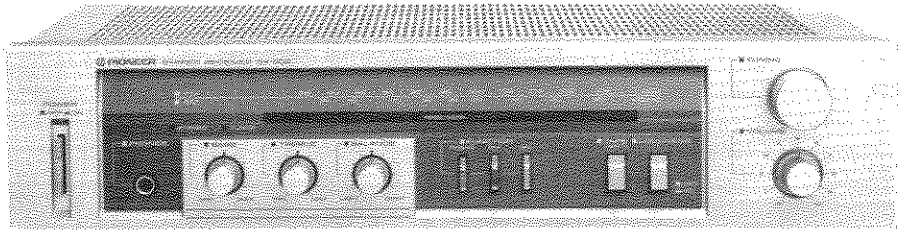
Operating Instructions

AM/FM STEREO RECEIVER

SX-202

S, YP



For the sake of convenience, the illustrations and explanations are based on the SX-220 S.

- For Australia (YP stamped on packing case): Power line voltage is 240 volts.
- For general export model ('S' stamped on packing case): A 4-point (110V/120V/220V/240V) voltage selector switch is provided on the rear panel, and AC outlets are provided on the rear panel.

In case of S model, please confirm the setting of the line voltage selector switch. If it is not set properly, change the setting of it according to the VOLTAGE AND FUSING VARIATIONS shown on page 2.

IMPORTANT

To prevent electric shock, do not remove cover. No user serviceable parts inside; refer servicing to qualified service personnel.
This apparatus is fitted with AC mains power outlet(s) for convenient connection of additional Hi-Fi component(s).
For details on the outlet(s), see REAR PANEL FACILITIES.
Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last; make sure that the power switch is off.
Disconnect the wall plug when the equipment is not in regular use, e.g. when on vacation.

FOR USE IN AUSTRALIA

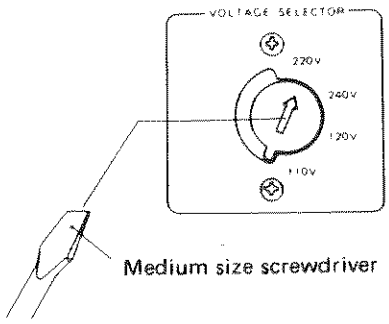
CAUTION 240 V: **Mains supply voltage is factory adjusted at 240 V.**

PIONEER®

VOLTAGE VARIATIONS
For General Export Model(S)

You will find the line voltage selector switch on rear panel. This switch has positions for 110V, 120V, 220V and 240V power sources. Before your amplifier is shipped from the factory, the switch is set to the power requirements of the destination; nevertheless, you should check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows. Before adjusting, disconnect the power cord.

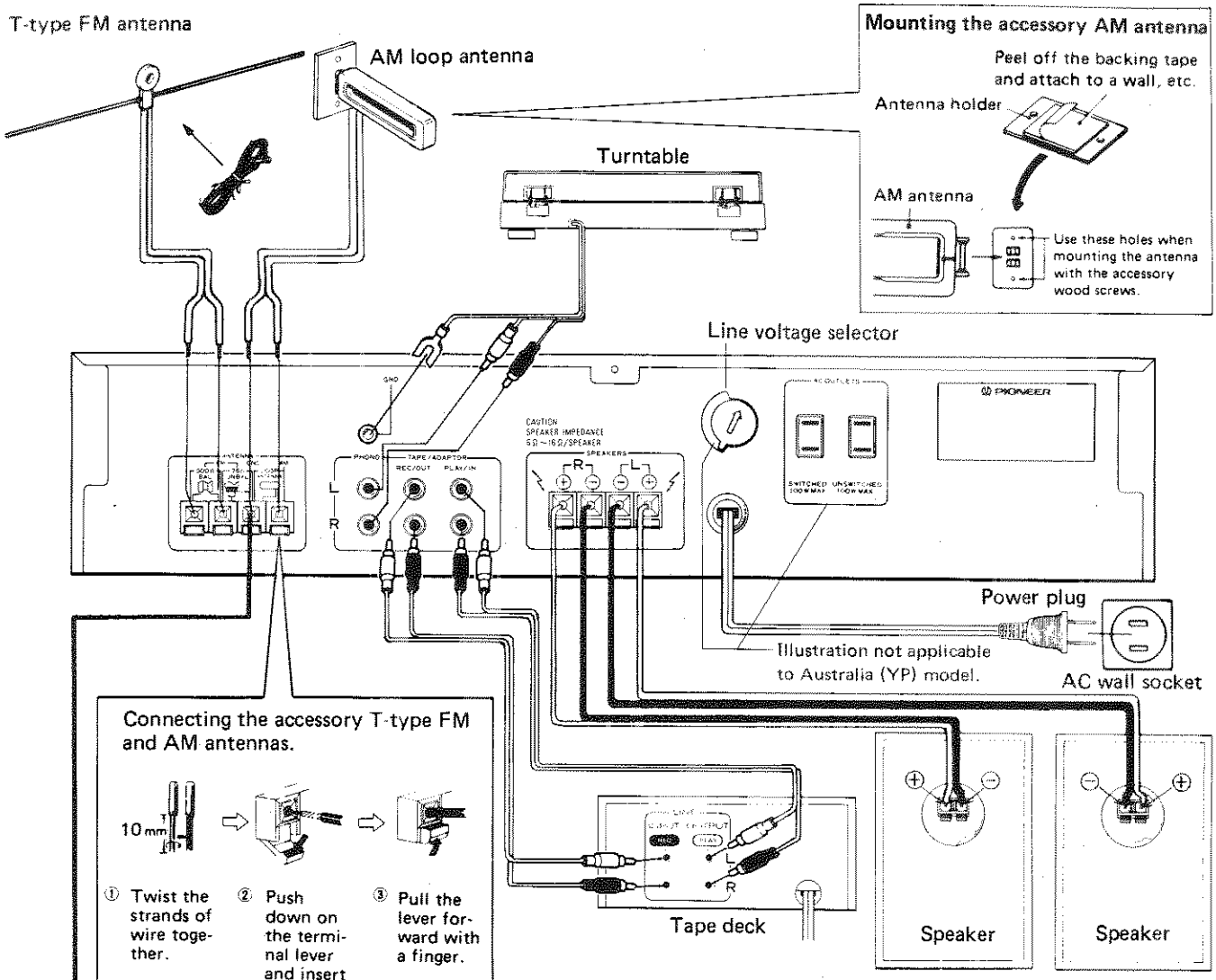
1. Prepare a medium size screwdriver.
2. Insert the screwdriver into the arrow on the voltage selector and adjust so that the tip of the arrow points to the voltage value of your area.



CONTENTS

Connection Diagram 3
Front Panel Facilities 4
Operations 5
External Antennas 6
Troubleshooting 7
Specifications 8

CONNECTION DIAGRAM


T-type FM antenna
AM loop antenna
Turntable
Mounting the accessory AM antenna
Peel off the backing tape and attach to a wall, etc.
Antenna holder
AM antenna
Use these holes when mounting the antenna with the accessory wood screws.
Line voltage selector
Power plug
Illustration not applicable to Australia (YP) model.
AC wall socket
Tape deck
Speaker
Speaker
Connecting the accessory T-type FM and AM antennas.
10 mm
① Twist the strands of wire together.
② Push down on the terminal lever and insert the wire into the hole.
③ Pull the lever forward with a finger.
Bury the ground rod or plate in the earth at a depth of not less than 30cm.

Connecting the ground wire

- Bury a ground rod, which you can obtain from your dealer, in the earth and connect it to the unit's ground terminal.
- Stations can still be picked up without the ground wire being connected although connection is recommended for reduced noise and improved safety.

Under no circumstances should the ground wire be connected to a gas pipe due to the danger of explosions.

Speaker Impedance

Use speaker systems with an impedance ranging from 6 ohms to 16 ohms.

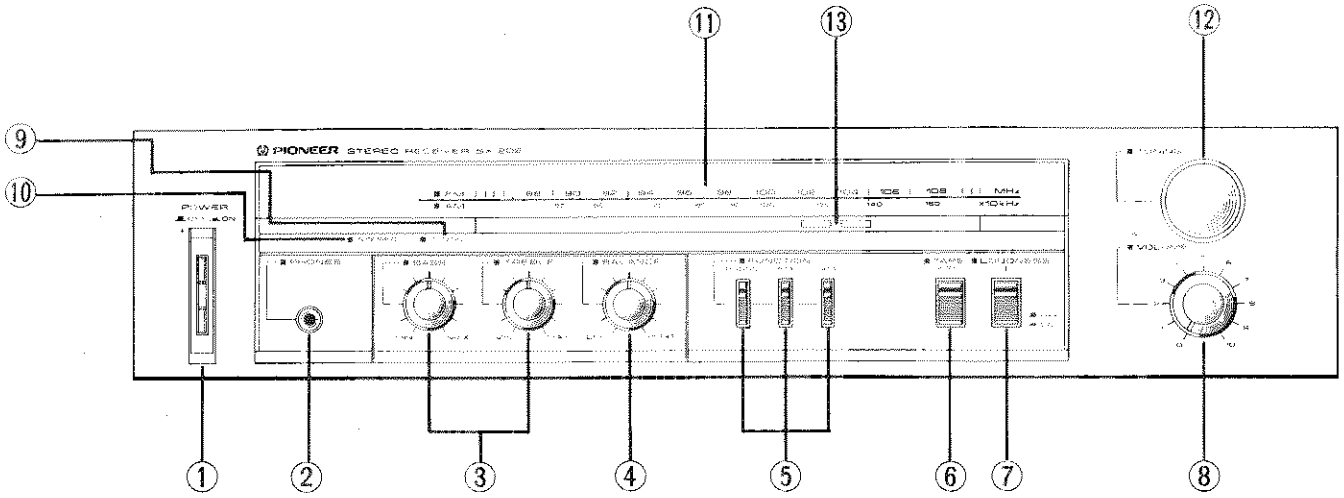
AC Outlets

SWITCHED (100W) : The power supplied through this outlet is coupled to the operation of the receiver's power switch.

UNSWITCHED (100W): The power is always supplied through this outlet regardless of the position of the power switch.

NOTE:
Never connect the power plug of the electric appliances whose power consumption exceeds the power capacity of the AC OUTLETS indication.

FRONT PANEL FACILITIES



① POWER SWITCH

Depress this to switch on and off the unit's power. Power is supplied at the depressed positions (▬ ON) and turned off at the released positions (▬ OFF).

② HEADPHONE JACK

Connect the plug on the stereo headphones to this jack when listening to sound through headphones. When the headphones are connected, no sound is heard from the speakers.

③ TONE CONTROLS

BASS : The bass is increased when this control is rotated clockwise from the center position and reduced when rotated counterclockwise.

TREBLE : The treble is increased when this control is rotated clockwise from the center position and reduced when rotated counterclockwise.

④ BALANCE CONTROL

This is normally kept at its center position. It is rotated when the volume of sound delivered through the left and right channels of the speakers or headphones differs.

The right channel volume is reduced when the control is rotated toward the LEFT from the center position while the left channel volume is reduced when it is rotated toward the RIGHT.

⑤ FUNCTION SWITCHES

PHONO : Depress when listening to records.

FM : Depress when listening to FM broadcasts.

AM : Depress when listening to AM broadcasts.

⑥ TAPE (ADPT) SWITCH

Depress this switch to the (▬ ON) position when using a tape deck or adaptor unit connected to the rear panel TAPE/ADAPTOR jacks.

⑦ LOUDNESS SWITCH

Depress this switch to the (▬ ON) position when listening to sound at a low level of volume. This will enhance the bass and treble and give more life to the sound even at a low volume.

⑧ VOLUME CONTROL

Use this to adjust the volume of the sound delivered through the speakers or headphones.

The volume is increased when this control is rotated clockwise from the minimum "0" position.

⑨ TUNING INDICATOR (TUNING)

This lights up to indicate that an FM, AM station has been tuned in.

⑩ STEREO INDICATOR (STEREO)

This lights up to indicate that an FM station broadcasting in stereo has been tuned in.

⑪ FREQUENCY SCALE

This indicates the frequency of the broadcasting station (FM, AM).

The top level figures (88 ~ 108) indicate the FM band.

The bottom level figures (55 ~ 160) indicate the AM band.

⑫ TUNING KNOB

Rotate this knob to pick up stations (FM, AM).

⑬ POWER INDICATOR/DIAL POINTER

OPERATIONS

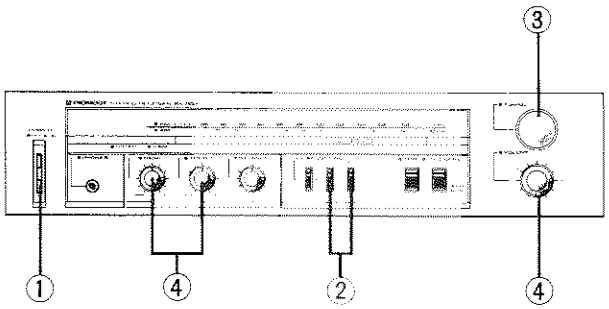
LISTENING TO THE BROADCAST

① Depress the unit's POWER switch to turn on the power.
② Depress the appropriate function switch.
- Depress the FM switch for FM reception.
- Depress the AM switch for AM reception.

③ Rotate the tuning knob and tune in the desired station. Move the pointer along the frequency scale until it reaches the frequency of the desired station.

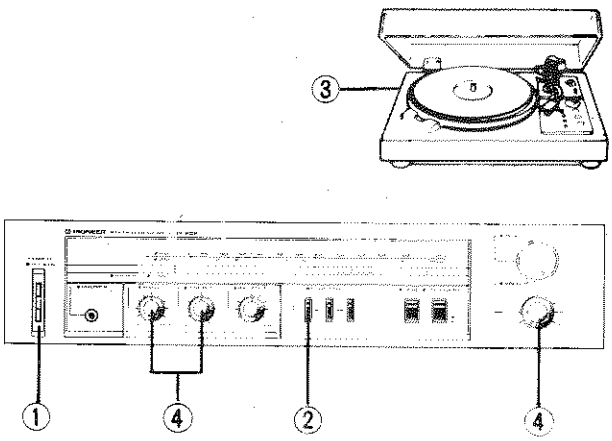
NOTE:
There may be breaks in the sound when the FM broadcast station is located relatively far away and the signals sent are weak (at the Muting Threshold Level).

④ Adjust the volume with the VOLUME control and the tone with the BASS and TREBLE controls.



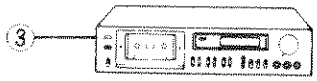
RECORD PLAY

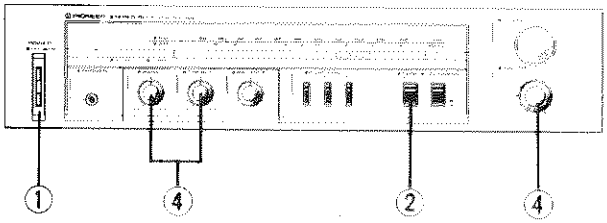
① Depress the POWER switch to the ON postion.
② Depress the PHONO switch.
③ Operate the turntable to play the record.
④ Adjust the volume with the VOLUME control and the tone with the BASS and TREBLE controls.



TAPE PLAYBACK

① Depress the POWER switch to the ON position.
② Depress the TAPE (ADPT) switch.
③ Set the tape deck to the playback mode.
④ Adjust the volume with the VOLUME control and the tone with the BASS and TREBLE controls.

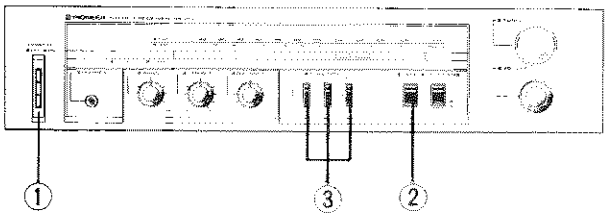




TAPE RECORDING

① Depress the POWER switch to the ON position.
② Release the TAPE (ADPT) switch.
③ Play the source which is to be recorded (broadcast, record, etc.).
④ Set the tape deck to the recording mode.

NOTE:
The recording can be monitored when the TAPE (ADPT) switch is depressed if a 3-head tape deck is being used.



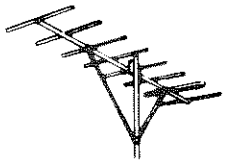
EXTERNAL ANTENNAS

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory T-type FM antenna or accessory AM antenna, or when the sound heard is accompanied by a lot of noise.

[Outdoor FM Antenna]

The type of antenna used differs according to the area. An antenna with between 5 and 8 elements is suitable in a weak-signal area far from the broadcasting stations while a 3-element antenna is suitable for medium and strong-signal areas.

8-element FM antenna



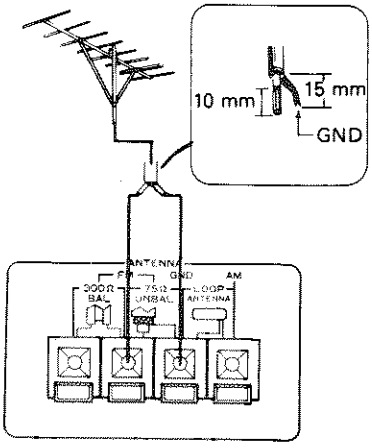
NOTE:

When installing the outdoor antenna, ask your dealer to give you advice on the type of antenna required and on how it should be erected.

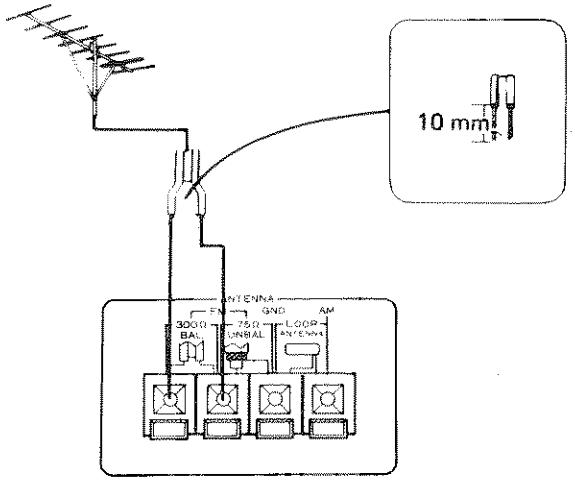
Connecting the antenna to the unit

It is recommended that you use a 75-ohm coaxial cable so that the effect of extraneous noise is reduced to a minimum.

When the connecting cable is a 75-ohm coaxial cable

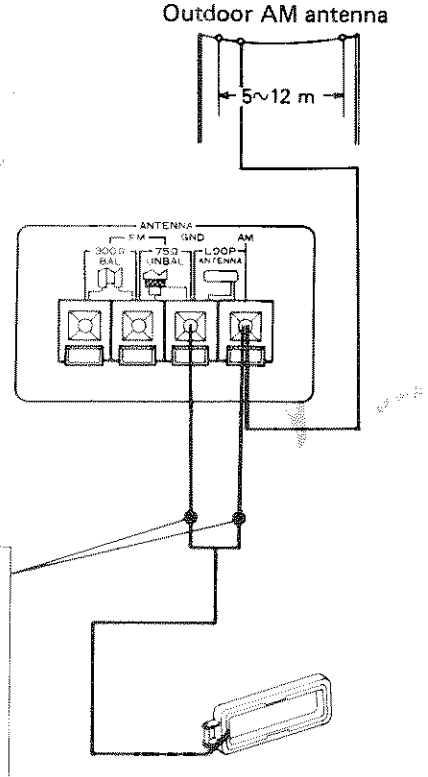


When the connecting cable is a 300-ohm feeder.



[Outdoor AM Antenna]

Use a tree or similar object to erect a length of vinyl-coated wire outdoors.



NOTE:

- *Keep the AM loop antenna connected even after the outdoor AM antenna has been erected.*
- *If the loop antenna is placed where it touches a metal object, its sensitivity will be reduced, and may cause difficult reception.*

TROUBLESHOOTING

Incorrect operation is often mistaken for trouble or malfunctioning. If you think that something is wrong with your unit, check out the points below. The trouble may sometimes lie in another component. Investigate the speaker systems and other electrical apparatus which are being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
No power (even with POWER switch at ON).	• Disconnected power cord plug.	• Re-connect cord properly.
No sound even when FUNCTION switch is set.	• VOLUME control at "0". • Connecting cords have worked free of speaker terminals. • One or both input cords have worked free. • Antenna has not been connected or has become disconnected.	• Rotate VOLUME control to right. • Connect securely. • Connect cords securely. • Connect the antenna securely.
Sound through one speaker only.	• BALANCE control is at LEFT or RIGHT position. • One of input cords has worked free. • One of speaker connecting cords has worked free.	• Set control to center position. • Connect cords securely. • Connect securely.
Sound is distorted.	• VOLUME control is too high. • BASS control is too high.	• Rotate VOLUME control to left. • Rotate BASS toward MIN.
High noise level.	• Station has not been tuned into correct frequency.	• Rotate tuning knob and tune in correct frequency.
	• Antenna has not been connected or has become disconnected.	• Connect the antenna securely.
	FM reception • Accessory T-type antenna remains bundled up or it is not pointing in right direction.	• Stretch both ends of antenna taut and locate direction yielding optimum reception.
	• Weak broadcasting station signals.	• Replace accessory T-type antenna with outdoor FM antenna.
	• Noise picked up from other equipment (or, in particular, from passing automobiles) or generation of multipath distortion. • Multipath results when signals from broadcasting station entering antenna directly are mixed with signals which have been reflected by mountains or high buildings on their way to antenna. This results in distorted sound and noise.	• Try altering direction and mounting position of antenna. If an outdoor antenna has been erected, place it as far away as possible from passing traffic and replace connecting cable with 75-ohm coaxial cable.
	AM reception • AM antenna not pointing in right direction.	• Change AM antenna's direction and find a position where reception is improved.
	• Weak broadcasting station signals.	• Erect outdoor AM antenna or connect ground wire.
	• Noise being picked up from other equipment (especially electrical appliances using motor or fluorescent lights).	• Stop using appliances generating noise or remove them from vicinity of stereo equipment.

SPECIFICATIONS

Amplifier Section

Continuous Average Power Output is 25 watts* per channel, min., at 8 ohms from 40Hertz to 20,000Hertz with no more than 0.3% total harmonic distortion.

Total Harmonic Distortion (40 Hertz to 20,000 Hertz, 8 ohms, from TAPE)
- continuous rated power output ..... No more than 0.3%
- 12.5 watts per channel power output ..... No more than 0.15%
- 1 watt per channel power output ..... No more than 0.2%

Intermodulation Distortion (50 Hertz: 7,000 Hertz = 4 : 1, 8 ohms, from AUX)
- continuous rated power output ..... No more than 0.3%

Continuous Power Output at 1kHz (EIAJ) (both channels driven)
- T. H. D. 5%, 8 ohms ..... 36 watts per channel

Damping Factor (1 kHz, 8 ohms) 22

Input (Sensitivity/Impedance)
- PHONO ..... 2.5 mV/50 kilohms
- TAPE PLAY ..... 150 mV/50 kilohms

Phono Overload Level (T.H.D.0.1%, 1,000Hz)
- PHONO 150mV

Output (Level/Impedance)
- TAPE REC ..... 150 mV
- SPEAKER ..... 6 to 16 ohms

Frequency Response
- PHONO (RIAA Equalization) ..... 30Hz to 20,000Hz±0.5dB
- TAPE PLAY ..... 15Hz to 50,000Hz $^{+1}_{-3}$dB

Tone Control
- BASS ..... ±9dB (100Hz)
- TREBLE ..... ±9dB (10kHz)

Loudness Contour(Volume control set at -40dB position) ..... +8dB (100Hz), +6dB (10,000Hz)

Hum and Noise (IHF, short circuited, A network)
- PHONO MM 71dB
- TAPE PLAY 97dB

FM Tuner Section

Frequency range ..... 88MHz to 108MHz

**Usable Sensitivity 10.7dBf (0.9μV/75Ω)

50dB Quieting Sensitivity
- **MONO 15.3dBf (1.6μV/75Ω)
- STEREO 37.6dBf (21μV/75Ω)

Signal-to-Noise Ratio
- MONO ..... 75dB (at 85dBf)
- STEREO ..... 70dB (at 85dBf)

Distortion (at 65dBf)
- MONO 1kHz 0.3%
- STEREO 1kHz 0.6%

Capture Ratio 2.5dB

Alternate Channel Selectivity (400kHz) 50dB

Stereo Separation (1kHz) 35dB

Frequency Response ..... 30Hz to 15kHz, $^{+0.5}_{-1.0}$ dB

Spurious Response Ratio 70dB

Image Response Ratio 45dB

IF Response Ratio 100dB

AM Suppression Ratio 45dB

Subcarrier Product Ratio 31dB

Muting Threshold 27dBf (6.3μV/75Ω)

Antenna Input ..... 300 ohms balanced, 75 ohms unbalanced

AM Tuner Section

Frequency range ..... 530kHz to 1600kHz

Sensitivity
- IHF, Loop antenna 320μV/m
- IHF, Ext, antenna 30μV

Selectivity 25dB

Signal-to-Noise Ratio 43dB

Image Response Ratio 40dB

IF Response Ratio 45dB

Antenna ..... AM Loop Antenna

Miscellaneous

Power Requirements
- S model ..... AC 110/120/220/240V, 50/60Hz
- YP model ..... AC 240V, 50Hz

Power Consumption
- S model ..... 62 watts
- YP model ..... 165 watts

Dimensions ..... 420(W) x 98(H) x 214(D) mm
16-9/16(W) X 3-7/8(H) X 8-7/16(D) in

Weight (without package) ..... 4.3 kg (9 lb 8 oz)

Furnished Parts

FM T-type Antenna 1

AM Loop Antenna 1

Operating Instructions 1

**Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*

***FM muting functions with this unit when the signals are weak. The unit's internal wires are therefore treated so that the signals are not muted when the sensitivity is measured.*

NOTE:

Specifications and design subject to possible modification without notice.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS [USA] INC. 1925 E. Dominguez St., Long Beach, California 90810 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

〈83E00F8003〉

Printed in Japan <ARB-538-0>